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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/631,933 | 07/31/2003 | Alan F. Benner | POU920030015US1 | 9641 |
| 7590 | 03/08/2006 | | EXAMINER | |
| Philmore H. Colburn, II Esq. Canton Colburn LLP 55 Griffin Road South Bloomfield, CT 06002 | | | KANG, JULIANA K | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2874 | |

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/631,933 | BENNER ET AL. | |
| | Examiner | Art Unit | |
| | Juliana K. Kang | 2874 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 2/2/06 (RCE).
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,3-14,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1, 3-14, 20, 21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____. |
|---|--|

1. The request filed on 2/2/06 for a Request for Continued Examination (RCE) under 37 CFR 1.114 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Objections

2. Claim 11 is objected to because of the following informalities:

Claim 11 recites "the second major surface" in line 12. There is insufficient antecedent basis for the limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 5-11 and 21 are rejected under 35 U.S.C. 102(a) as being anticipated by Stricot et al (U.S. Patent 6,767,142 B2).

Stricot et al disclose an optoelectronic assembly comprising an electronic chip set (35); a substrate (32) comprising a first major surface (top surface) in communication with the electronic chip set, a second major surface (bottom surface) and an edge surface (the surface where the flexible circuit [33]) is connected; an electrical signaling medium (33, flexible circuit) having a first end in signal communication with the substrate; an optoelectronic transducer (5) in signal

communication with a second end of the electrical signaling medium; and an optical coupling guide (8, alignment pins) for aligning an optical signal medium (10) with the optoelectronic transducer; wherein an electrical signal from the electronic chip set is communicated to the optoelectronic transducer via the substrate and the electrical signaling medium, and wherein the electronic chip set and the optoelectronic transducer share a common thermal path (4) for cooling; a heat spreader (4) having a first (27) and second surface (25), the first surface in thermal contact with the complementary device, and the second surface in thermal contact with the optoelectronic transducer, the first surface being orthogonal to the second surface (See Fig. 1). Stricot et al also disclose an integrated circuit (13) in communication with the second end of the electrical signaling medium; and a VCSEL or a PIN photodiode matrix (5) in electrical communication with the integrated circuit. Stricot et al's entire substrate including the first, second and the edge surface is in communication with the flexible printed circuit board. Stricot et al show the optical coupling guide (8) that is mounted on the second surface (25) of the heat spreader.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 3, 4, 12, 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stricot et al (U.S. Patent 6,76,142 B2).

Regarding claims 3 and 14, Stricot et al do not specifically teach that the chip set (complementary component, 35) comprises a processor chip, a memory chip, a signal processing chip, a switching chip or any combination thereof. Stricot et al teach using the device in an optical telecommunications. And using such chips is well known in the communication art. Thus, it would have been obvious to one having ordinary skill in the art to use such known chips in Stricot et al to process signals.

Regarding claim 4, Stricot et al do not teach that the substrate is an organic or a ceramic. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use an organic or a ceramic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Regarding claim 12, Stricot et al do not teach a self or recess on the second major surface of the substrate. Using a recess or groove for coupling two components are well known in the art for the alignment purposes. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a recess in Stricot et al to make the precise alignment between the substrate and the flexible circuit.

Regarding claims 13 and 20, Since Stricot et al teach the substrate (32) having a complementary device (35) on a motherboard (see column 5 lines 1-15) in thermal contact with the second surface of the thermal spreader for the purpose of connecting device (1) to another device, placing other components such as additional

optoelectronic transducer on the second surface of the thermal spreader would have been obvious to one having ordinary skill in the art for the purpose of processing optical signals.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hudgins et al (U.S. Patent 6,270,262 B1) and further in view of Giboney et al (U.S. Patent 6,318,909 B1).

Hudgins et al disclose an optoelectronic assembly for a computer system, comprising: an electronic chip set (46); a substrate (30b) in communication with the electronic chip set; an electrical signaling medium (101, flexible circuit board) having a first end in signal communication with the substrate; an optoelectronic transducer (60) in signal communication with a second end of the electrical signaling medium wherein an electrical signal from the electronic chip set is communicated to the optoelectronic transducer via the substrate and the electrical signaling medium (see column 4 lines 40-63); a printed circuit board (30a) in communication with a second major surface of the substrate, and wherein the electronic chip set and the optoelectronic transducer share a common thermal path for cooling (see column 4 lines 27-30 and 44-46). Hudgins et al show heat spreader (50) in thermal contact with the electronic chip set on first surface and the part of the optoelectronic transducer (70) in thermal contact with the second surface wherein the first surface being orthogonal to the second space (see Fig. 3). Hudgins et al teach coupling the optoelectronic assembly module to an optical fiber (62) however, Hudgins et al is silent about an optical coupling guide. Giboney et al teach using an optical coupling guide (a set of alignment pins) for aligning an optical fiber

ribbon to an optoelectronic assembly for a precise alignment. Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to use an optical coupling guide in Hudgins et al as taught by Giboney et al for optimum coupling efficiency. As described above Hudgins et al and Giboney et al teach the claimed limitations except for the flexible printed circuit board in communication with either the second major surface. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the flexible printed circuit board in communication with the second major surface to make the device more compact and it has been held that rearranging parts of an invention involves only routine skill in the art.

Response to Arguments

8. Applicant's arguments with respect to claims 1, 3-10 and 12-14 have been considered but are moot in view of the new ground(s) of rejection. However, arguments with respect to claim 11 have been fully considered but they are not persuasive. Applicant argues that Hudgins does not teach all three of a chip set, a substrate and a printed circuit board as recited in claim 11. But as stated above, Hudgins et al clearly teach a chip set (46), a substrate (30b) and a printed circuit board (30a)

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (571) 272-

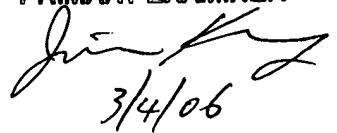
Art Unit: 2874

2348. The examiner can normally be reached on Monday through Thursday 8:00 AM-2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JULIANA KANG
PRIMARY EXAMINER



3/4/06